THE UNIVERSITY OF GEORGIA
COOPERATIVE EXTENSION
Colleges of Agricultural and Environmental Sciences & Family and Consumer Sciences

Soil, Plant, and Water Laboratory
2400 College Station Road
Athens, Georgia 30602-9105
Web site: http://aesl.ces.uga.edu

Water Treatment System Analysis Report

Sample ID _____ (CEC/CEA Signature)

Client Information	steve_williams@watermgt.com	***Lab Information***	***County Information***
Williams, Steve	404-234-1358	Lab #1015	**Fulton County**
1015 Arden Ave.		Completed: Sep 5, 2012	1 Margaret Mitchell Square, Ste 109
Atlanta, GA 30310		Printed: Sep 6, 2012	Atlanta, GA 30303
Sample:			phone: 404-730-7000
Type: **Rainwater**			e-mail: uge1121@uga.edu

Results

pH: 4.7 (Desired pH range 6.5 to 8.5) [a]

Calculated Hardness: 3 ppm (0.2 gr/gal) - Soft Water -

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Saturation Index: -6.3 - Severe Corrosion: Treatment Recommended [b]

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Alkalinity	**2 ppm**		Manganese (Mn)	negligible	0.05 ppm (S)
Aluminum (Al)	negligible	0.2 ppm (S)	Molybdenum (Mo)	negligible	No Set Maximum
Boron (B)	negligible	No Set Maximum	Nickel (Ni)	negligible	No Set Maximum
Calcium (Ca)	**1.0 ppm**	No Set Maximum	Nitrate-Nitrogen (NO_3^--N)	**0.38 ppm**	10.0 ppm (P)
Carbon Dioxide (CO_2)	**74.48 ppm**				
Chloride (Cl)	**0.06 ppm**	250 ppm (S)	Phosphate (PO_4)	negligible	
Chromium (Cr)	negligible	0.1 ppm (P)	Phosphorus (P)	negligible	No Set Maximum
Conductivity (Specific Conductance @ 25°C)	**11 µS/cm** [c] (µS/cm = µmhos/cm)		Potassium (K)	negligible	No Set Maximum
			Silica (SiO_2)	negligible	No Set Maximum
Copper (Cu)	negligible	1.0 ppm (S) 1.3 ppm (P)	Sodium (Na)	**0.6 ppm**	No Set Maximum
			Sulfate (SO_4)	**0.83 ppm**	250 ppm (S)
Fluoride (F)	**0.02 ppm**	2.0 ppm (S) 4.0 ppm (P)	Total Dissolved Solids (TDS) - Estimated	**6 ppm**	500 ppm (S)
Iron (Fe)	negligible	0.30 ppm (S)	Zinc (Zn)	**0.08 ppm**	5.0 ppm (S)
Magnesium (Mg)	negligible	No Set Maximum			

* The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm: Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in 1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE: This test does not imply that this water is safe from bacteria or other chemicals that may be present. If you have concerns in these areas, contact your County Extension Agent.

Comments are listed on the next page

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Analysis Report

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[a] **pH**

The pH of this water sample is below 6.5. Low pH is usually caused by dissolved carbon dioxide in the water and causes the water to be acidic. Low pH water is not harmful to drink but it can cause corrosion of metal pipes and other metal components in the plumbing system. If such corrosion is evident, the problem can usually be corrected by increasing the pH of the water before it enters the metal pipes. This can be accomplished by installing a calcium-based neutralizing tank.

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[b] **Saturation Index**

The saturation index is used to predict the corrosion or scaling property of this water. Corrosion of the pump, pipe, and fixtures can cause high metal levels in the water, especially copper and lead. Treatment for corrosion would consist of pH neutralization with a calcium or magnesium base (ie., calcite) filter bed. Corrosion problems can be reduced by using non-metal plumbing (ie., PVC). Treatment for scaling consists of water softening to reduce hardness. Scaling problems can be reduced by lowering the hot water temperature.

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[c] **Conductivity**

Conductivity is the measure of the ability of the water to conduct electricity. The units for conductivity are usually expressed either as micro-Siemens (µS) or micro-mhos (µmhos) per centimeter (µS/cm = µmhos/cm). Conductivity increases as the amount of dissolved ionic solids increases and is sometimes called "soluble salts". Dissolved inorganic compounds are relatively good conductors; conversely, dissolved organic compounds are poor conductors. The conductivity of distilled water usually ranges from 0.5 to 3 µS/cm and most drinking water in the United States ranges from 50 to 1500 µS/cm.

All parameters tested are within the permissible limits established for drinking water.